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Dectes Stem Borer in Tennessee

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Introduction

The Dectes stem borer, *Dectes texanus texanus* LeConte, is a small, long-horned beetle whose larva tunnels in the stem of soybean and wild host plants. The borer was discovered causing damage to soybeans in Tennessee in the early 1970s. At that time, damage was minimal and not widespread. Observations and reports from producers, Extension agents and agribusiness personnel indicate that more damage is now occurring. Recent reports indicate that lodging of 30 to 40 percent has occurred in some soybean fields. Increased damage from this insect may be due to the widespread planting of no-till soybeans, which provides undisturbed overwintering sites for larvae.

Description and Life History

The adult beetle (Fig. 1) is gray and approximately 3/8 inch in length. Eggs are yellowish, shiny, elongated and darken to an amber color prior to hatching. The larva (Fig. 2) is less than 1/16 inch when it hatches from the egg, but reaches a length of 1/2 to 5/8 inch when full grown. The newly-hatched larva is creamy white but darkens as it matures. The pupa resembles the adult in shape and is yellowish-white, turning to dark brown before the adult emerges. The pupal stage lasts eight to 10 days, with emergence of adults beginning in late June. Mating takes place approximately five days after adults emerge from the pupal stage. The female beetle chews a small hole in the leaf petiole or the stem, where she lays a single egg. In weedy fields, females may choose to lay eggs in stems of alternate host plants like cocklebur or giant ragweed. After hatching within the petiole, the larva tunnels to the main stem, where it feeds on the pith until the plant matures. In late summer, the larva moves to the base of the plant and girdles the interior of the stem approximately 2 inches above soil level to create an overwintering area in the tunneled stem. Only one generation of the *Dectes* stem borer occurs each year.

Soybeans lodge when strong winds cause the plants to break at the girdled area and fall to the ground (Fig. 3). Even if plants do not lodge, yield reductions of up to 10 percent occur in infested plants due to reduced water and nutrient movement through the stems.

Fig.1 Dectes Adult Beetle * (larger than life size)

Control

No pesticides are specifically labeled to control *Dectes* beetles or the larvae. Although threshold levels have not been established, research is being conducted to determine methods of control to reduce economic losses in soybeans. Studies have shown significant mortality of overwintering *Dectes* larvae following tillage, but with most soybeans in Tennessee being planted no-till, this is not a viable option. Many soybean varieties have shown reduced damage, but the nature of this resistance is unknown. Screening varieties for resistance to borer damage continues.

Fig.2 Larva ** (larger than life size)

Fig.3 Girdled stems showing damage *

Photo credits

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